

MILLIMETER- AND SUBMILLIMETER-WAVE
NOISE GENERATOR

ABSTRACT OF THE DISCLOSURE

5 A noise generator for generating multi-octave, high-level, millimeter- and
submillimeter-wave noise is disclosed. According to one embodiment of the invention, the noise
generator includes: a microwave noise source; a microwave power-amplifier chain; a level-set
attenuator; a frequency multiplier; and a transmission structure. The output of the generator has a
high-intensity noise power spectrum over a frequency range from about 60 GHz to about 1 THz.
10 This type of noise is particularly suited and has sufficient power for testing and calibrating
millimeter- and submillimeter-wave components, devices, and circuits; material evaluation and
characterization; and for use as a broadband millimeter- and submillimeter-wave noise source for
a Fourier Transform Spectrometer.

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